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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,300	04/02/2004	Jeffrey P. Erhardt	H0819	1884
22898	7590	10/03/2005	EXAMINER	
THE LAW OFFICES OF MIKIO ISHIMARU 1110 SUNNYVALE-SARATOGA ROAD SUITE A1 SUNNYVALE, CA 94087			KUNDU, SUJOY K	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/817,300	Applicant(s) ERHARDT ET AL.	
	Examiner Sujoy K. Kundu	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

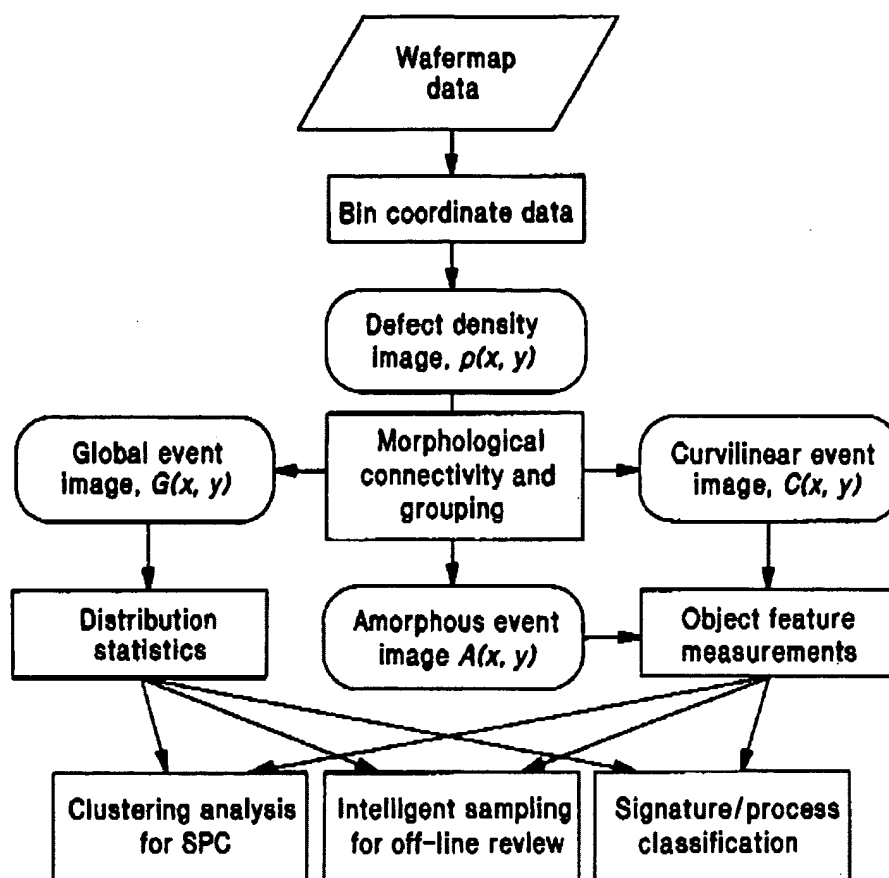
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 6-7, 11-12, 16-17, are rejected under 35 U.S.C. 102(b) as being anticipated by Tobin, Jr. et al (5,982,920).

Regarding claim 1, 6, 11, 16 Tobin teaches a method for analyzing a semiconductor device comprising: testing a semiconductor device to produce first data and second data (Abstract, Column 2, Lines 40-48) and applying a clustering method to the first data to create a clustered first data (Column 2, Lines 40-48); and correlating the clustered first data with the second data to determine analyzed data (Column 2, Lines 40-48).

Regarding claim 2, 7, 12, 17 Tobin teaches a method wherein the clustering method is spatial signature analysis (Column 2, Lines 23-25).



Regarding claim 5, 10, 15, 20 Tobin teaches a method wherein the analyzed data is selected from a group consisting of wafer mapping (Page 3, Lines 50-58), commonality, or correlation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 8, 13, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobin (5,982,920) as in view of Leung et al. (6,397,166).

Regarding claim 3, 8, 13, 18 Tobin discusses all the limitations as mentioned above. However, Tobin does not teach a method wherein the clustering method is K-means clustering.

Leung teaches a method wherein the clustering method is K-means clustering (Column 6, Lines 53-58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a method wherein the clustering method is K-means clustering as taught by Leung into Tobin for the purpose of further optimizing partitions within a data set (Leung, Background of the Invention, Column 1, Lines 58-67).

Claim 4, 9, 14, 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tobin (5,982,920) in view of Arai et al (US 2002/0145430 A1).

Regarding, claim 4, 9, 14, 19 Tobin teaches all the limitations discussed above however, Tobin does not teach a method wherein the first data is selected from a group consisting of IV curves and Vt distributions. Arai et al discloses a method wherein the first data is selected from a group consisting of IV curves and Vt distributions ("IV curves", Fig.3 & 4, Page 8, Paragraph 115).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a method wherein the first data is selected from a group consisting of IV curves and Vt distributions as taught by Aria into Tobin for the purpose of optimally estimating electrical data.

Response to Arguments

Applicant's arguments filed September 14, 2005 have been fully considered but they are not persuasive.

With regards to claims 1, 2, 11, and 16, applicant argues that Tobin et al. (5,982,920) does not disclose or even mention, "applying a clustering method...to create a clustered first data."

Examiner's position is that Tobin does disclose, "applying a clustering method...to create a clustered first data" in Column 2, Lines 40-48. Tobin mentions, "categorizing the data into a plurality of categories..."

Applicant further argues that Tobin does not disclose correlating the clustered first data.

Examiner's position is that Tobin does disclose correlating the clustered first data. First clustered data is referred to being the categorized signature event (Column 2, Lines 40-48).

Applicant further argues that Tobin does not teach a method wherein clustering method is spatial signature analysis as claimed in claims 2, 7, 12, 17.

Examiner's position is that Tobin does disclose the clustering method (Column 2, Lines 40-48) while evaluating wafer map data and uses spatial signature analysis (Column 2, Lines 23-25).

With regards to claims 3, 8, 13, 18, applicant argues that the invention is unrelated to the automated defect spatial signature analysis of semiconductor wafers but instead is related to retail sales systems.

Examiner's position is that the motivation to combine the two references of Leung as taught into Tobin teaches K-means clustering. The method of K-means clustering as taught by Leung into Tobin is used to further optimize partitions within a data set as taught by Leung (Leung. Background of Invention, Lines 58-67).

With regards to claims 4, 9, 14, and 19, applicant argues that the combination of Tobin and Arai taken as a whole would be combining a wafer analysis system with a battery charging system.

Examiner's position is that both references are directed towards data manipulation in electrical based systems. Therefore the limitations in the claims suggest that the first data computes a voltage-current characteristic as shown in both references (Arai, Abstract).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujoy K. Kundu whose telephone number is 571-272-8586. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKK
09/29/2005


John Barlow
Supervisory Patent Examiner
Technology Center 2800